

NATIONAL TRANSPORTATION SAFETY BOARD

Office of Research and Engineering
Materials Laboratory Division
Washington, D. C. 20594



March 25, 1997

TECHNICIAN'S FACTUAL REPORT

Report No. 97-64

A. ACCIDENT

Place : East Moriches, New York
Date : July 17, 1996
Vehicle : Boeing 747-100, N93119
NTSB No. : DCA96-M-A070
Investigator : Bob Swaim

B. COMPONENTS EXAMINED

Fuel pump wiring conduit, nine (9) sections

C. DETAILS OF THE EXAMINATION

The nine sections of fuel pump conduit received for examination are shown in figure 1. The work requested was to consist of sectioning of the conduit, examination of conduit interior, examination of wiring and wire identification.

Due to the condition (crushed) of the conduit sections a continuity test was carried out between all of the wires and the conduit. This test did not indicate that any bare wire was in contact with the inside of the conduit.

The conduit sections were arbitrarily labeled as 1 to 9. Examination of each section was carried out, cutting paths established and each "half" identified as A or B. The sections were cut along the established paths, separated and photographed, see figures 2 and 3.

The interior surface of all the conduits was examined, under a stereo microscope, for any possible arcing from the wiring. The teflon sheath around the wiring was similarly examined for chafing, wear or penetration by the wires. No signs of arcing, chafing, wear or penetration were evident.

The wires were examined for identification numbers and in some cases the teflon sheath had to be cut longitudinally to achieve this. The insulation color, wire type and identification found in each conduit section are tabulated below.

<u>Color</u>	<u>Type</u>	<u>Identification</u>
Conduit section #1		
White	W42A/8/1-18 06090	W1216-W221
White	W42A/8/1-18 06090	W1216-W197
White	W42A/8/1-18 06090	W1216-Q46
White	W42A/8/1-18 06090	*
Red	W42A/8/3/18 06090	*
Blue	* *	*
Yellow	* *	*
Conduit section #2		
White	W42A/8/1-18 06090	*
White	W42A/8/1-18 06090	W1210-W154
White	W42A/8/1-18 06090	W1210-Q44
White	W42A/8/1-18 06090	W1210-W216
Red	W42A/8/3-18 *	*
Blue	* *	*
Conduit section #3		
White	W42A/8/1-18 06090	*
White	W42A/8/1-18 06090	*
Red	* 18 06090	*
Blue	* *	*
Yellow	* *	*
Conduit section #4		
White	W42A/8/1-18 06090	*
White	W42A/8/1-18 06090	*
Conduit section #5		
No wires		

Conduit section #6

White	W42A/8/1-18	06090	W1214-Q47
White	W42A/8/1-18	06090	*
White	W42A/8/1-18	06090	*
White	W42A/8/1-18	06090	*
Red	W42A/8/3-18	06090	*
Blue	*	*	*
Yellow	*	*	*

Conduit section #7

Red	W42A/8/3-18	06090	*
Blue	*	*	*
Yellow	*	*	*

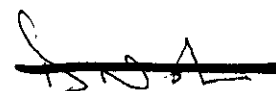
Conduit section #8

White	W42A/8/1-18	06090	W1216-W221
White	W42A/8/1-18	06090	W1216-Q46
White	W42A/8/1-18	06090	W1216-W198
White	W42A/8/1-18	06090	W1216-W197
Red	W42A/8/3-18	06090	*
Blue	*	*	*
Yellow	*	*	*

Conduit section #9

White	W42A/8/1-18	06090	W1216-W221
White	W42A/8/1-18	06090	W1216-W198
White	W42A/8/1-18	06090	W1216-W197
White	W42A/8/1-18	06090	W1216-Q46
Red	W42A/8/3-18	06090	*
Blue	*	*	*
Yellow	*	*	*

* = not available



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Engineering Technician

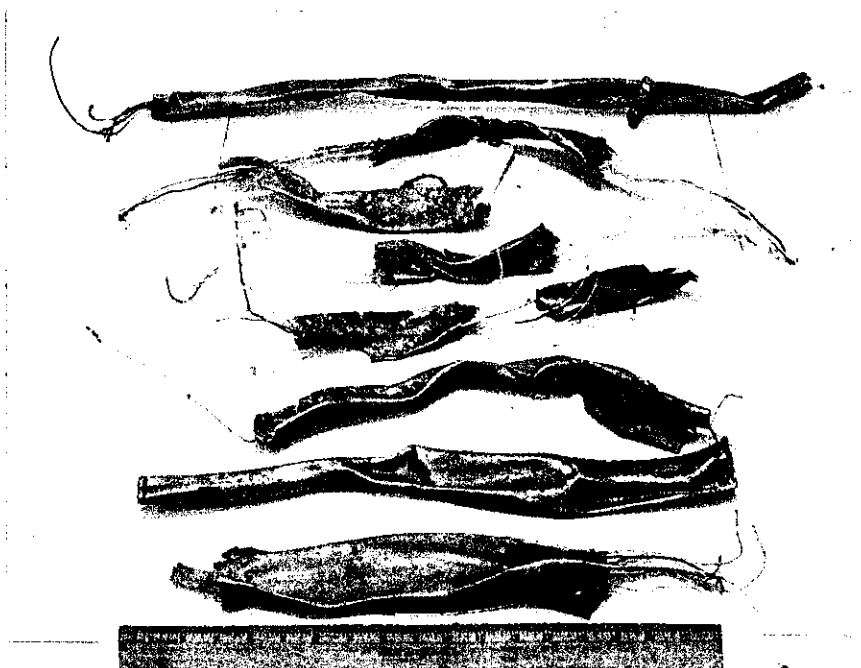


Figure 1. Sections of fuel pump wiring conduit as received.

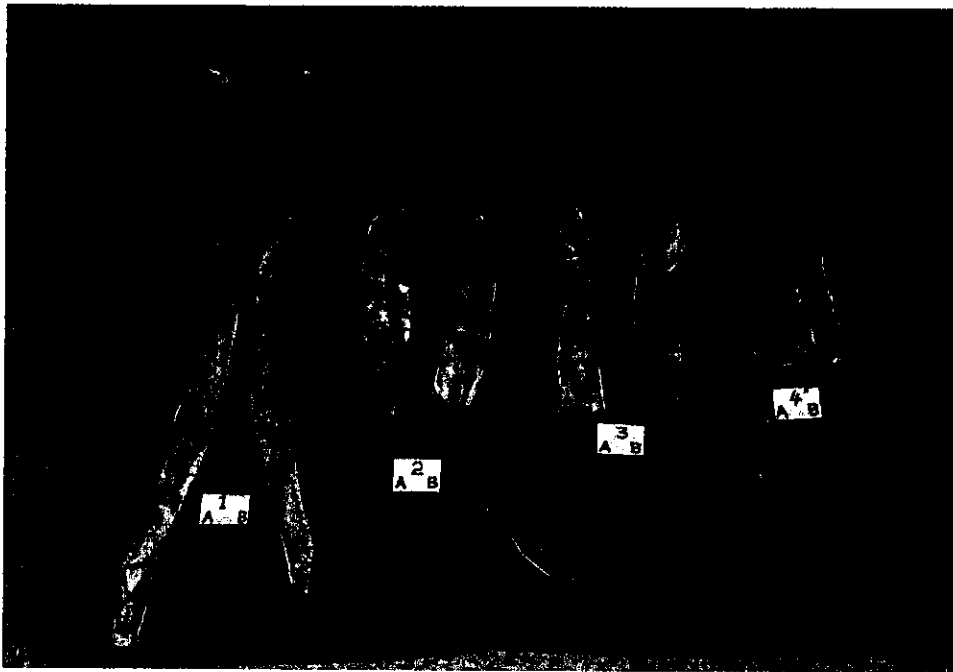


Figure 2. Conduit sections 1, 2, 3 and 4 cut for examination.

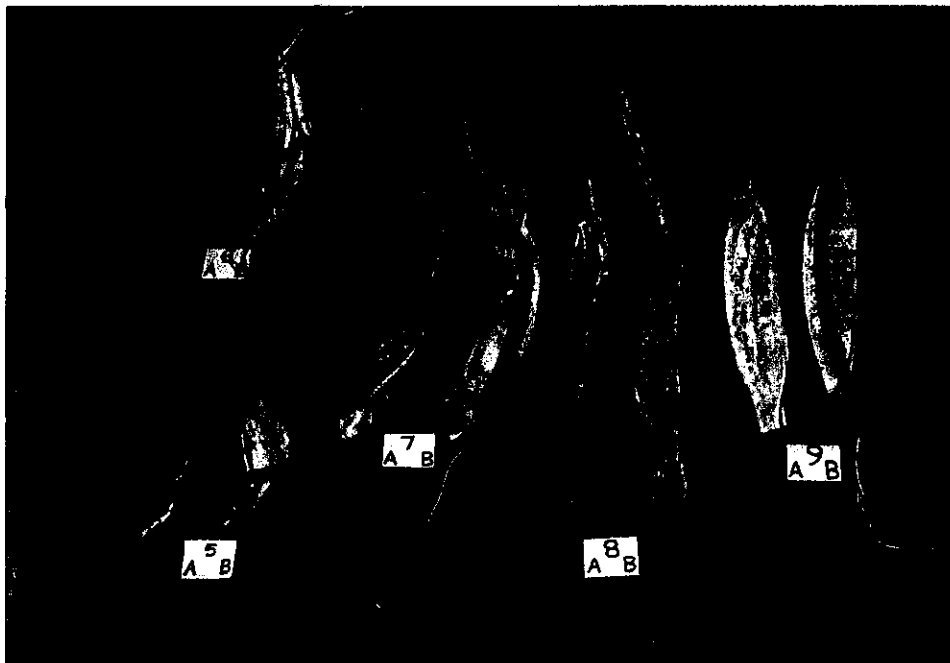


Figure 3. Conduit sections 5, 6, 7, 8 and 9 cut for examination.